

SN. 09/778,993

ATTORNEY DOCKET NO. CANO:019

IN THE CLAIMS

The status of the claims as presently amended is as follows:

1. (Currently Amended) An image forming apparatus comprising:

inputting means for inputting images;

image forming means for forming images on blank sheets based on the input images;

stacking means for stacking a plurality of bundles of insert sheets each for a plurality of pages which are inserted between the sheets having images formed thereon by said image forming means, in a predetermined order of pages in which the insert sheets are inserted;

inserter means for feeding the stacked insert sheets ~~and inserting same so as to be inserted~~ between said sheets having images formed thereon;

designating means for designating at least one position in said sheets having images formed thereon for insertion of at least one of the insert sheets by said inserter means;

detecting means for detecting an insert sheet ~~to be inserted first for a predetermined page in the bundles~~ when a plurality of positions have been designated by said designating means; and

discharging means operable when said detecting means detects that the insert sheet fed by said inserter means is not the insert sheet ~~to be inserted first for the predetermined page~~, for discharging insert sheets onto ~~at least one tray other than a tray onto which the insert sheet to be inserted first is discharged~~ an escape tray until the insert sheet ~~to be inserted first for the predetermined page~~ is detected.

2. (Previously Presented) An image forming apparatus according to claim 1, wherein said stacking means comprises a plurality of trays for stacking said plurality of insert sheets in a divided manner, the image forming apparatus further comprising selecting means capable of selecting between two types of stacking modes consisting of a first stacking mode in which a same type of insert sheets are stacked on each of said plurality of trays and a second stacking mode in which plural types of insert sheets are stacked in order in which they are inserted on each of said plurality of trays, and wherein said discharging means discharges insert sheets while said second stacking mode is selected by said selecting means.

3. (Original) An image forming apparatus according to claim 1, further comprising post-processing means for stacking said sheets having images formed thereon by said image forming means in a fashion mixed with insert sheets inserted by said inserter means, and for carrying out post-processing on the mixedly stacked sheets.

SN. 09/778,993

ATTORNEY DOCKET NO. CANO:019

4. (Original) An image forming apparatus according to claim 3, wherein said discharging means discharges said insert sheets to a location other than said post-processing means.

5. (Original) An image forming apparatus according to claim 1, comprising a conveyance path for insert sheets, and wherein said detecting means is provided on said conveyance path for insert sheets.

6. (Currently Amended) An image forming apparatus comprising:

inputting means for inputting images;

image forming means for forming images on blank sheets based on the input images;

stacking means for stacking a plurality of bundles of insert sheets for a plurality of pages which are inserted between the sheets having images formed thereon by said image forming means, in a predetermined order of pages in which the insert sheets are inserted;

inserter means for feeding the stacked insert sheets ~~and inserting same so as to be inserted~~ between said sheets having images formed thereon;

designating means for designating at least one position in said sheets having images formed thereon for insertion of at least one of the insert sheets by said inserter means;

detecting means for detecting an insert sheet ~~to be inserted first for a predetermined page in the bundles~~ when a plurality of positions have been designated by said designating means;

interrupting means for interrupting a sheet inserting operation of said inserter means when at least one of the insert sheets has jammed while being inserted by said inserter means; and

discharging means operable when said detecting means detects that the insert sheet fed by said inserter means is not the insert sheet ~~to be inserted first for the predetermined page~~ after the apparatus has recovered from the interruption by removing the at least one jammed insert sheet, for discharging insert sheets onto ~~at least one tray other than a tray onto which the insert sheet to be inserted first is discharged~~ an escape tray until the insert sheet ~~to be inserted first for the predetermined page~~ is detected, and for further discharging insert sheets onto the escape tray up to an insert sheet immediately preceding a same type of insert sheet as the at least one jammed insert sheet.

7. (Previously Presented) An image forming apparatus according to claim 6, for stacking said

SN. 09/778,993

ATTORNEY DOCKET NO. CANO:019

plurality of insert sheets in a divided manner, the image forming apparatus further comprising selecting means capable of selecting between two types of stacking modes consisting of a first stacking mode in which a same type of insert sheets are stacked on each of said plurality of trays and a second stacking mode in which plural types of insert sheets are stacked in order in which they are inserted on each of said plurality of trays, and wherein said discharging means discharges insert sheets while said second stacking mode is selected by said selecting means.

8. *(Original)* An image forming apparatus according to claim 6, further comprising post-processing means for stacking said sheets having images formed thereon by said image forming means in a fashion mixed with insert sheets inserted by said inserter means, and for carrying out post-processing on the mixedly stacked sheets.

9. *(Original)* An image forming apparatus according to claim 8, wherein said discharging means discharges said insert sheets to a location other than said post-processing means.

10. *(Original)* An image forming apparatus according to claim 6, comprising a conveyance path for insert sheets, and wherein said detecting means is provided on said conveyance path for insert sheets.

11. *(Currently Amended)* An image forming apparatus comprising:

inputting means for inputting images;

feeding means for feeding blank sheets;

Image forming means for forming images on the blank sheets fed by said feeding means based on the input images;

stacking means for stacking a plurality of insert sheets which are inserted between the sheets having images formed thereon by said image forming means, in a predetermined order in which the insert sheets are inserted;

inserter means for feeding the stacked insert sheets ~~and inserting same so as to be~~ inserted between said sheets having images formed thereon;

mixed stacking means for stacking in a mixed fashion the sheets having images formed thereon by said image forming means and insert sheets to be inserted by said inserter means between the sheets having images formed thereon;

insert sheet discharging detecting means for detecting that said insert sheets have been discharged to said mixed stacking means; and

SN. 09/778,993

ATTORNEY DOCKET NO. CANO:019

sheet feeding control means responsive to detection of discharging of said insert sheets by said insert sheet discharging detecting means after feeding of a blank sheet to said image forming means by said feeding means, for controlling ~~such that feeding said feeding means to carry out feeding of said a next~~ blank sheet[[s]] to said image forming means ~~be started~~.

12. (Currently Amended) An image forming apparatus comprising:

inputting means for inputting images;

feeding means for feeding blank sheets;

image forming means for forming images on the blank sheets fed by said feeding means based on the input images;

stacking means for stacking a plurality of insert sheets which are inserted between the sheets having images formed thereon by said image forming means, in a predetermined order in which the insert sheets are inserted;

inserter means for feeding the stacked insert sheets ~~and inserting same so as to be inserted~~ between said sheets having images formed thereon;

mixed stacking means for stacking in a mixed fashion the sheets having images formed thereon by said image forming means and insert sheets to be inserted by said inserter means between the sheets having images formed thereon;

image formed sheet discharging detecting means for detecting that said sheets having image formed thereon have been discharged to the mixed stacking means; and

inserting control means responsive to detection of discharging of said sheets having image formed thereon by said image formed sheet discharging detecting means, for controlling ~~such that feeding said inserter means to carry out feeding of said insert sheets by said inserter means be started to said image forming means~~.

13. (Currently Amended) An image forming apparatus comprising:

inputting means for inputting images;

feeding means for feeding blank sheets;

image forming means for forming images on the blank sheets fed by said feeding means based on the input images;

stacking means for stacking a plurality of insert sheets which are inserted between the sheets having images formed thereon by said image forming means, in a predetermined order in which the insert sheets are inserted;

SN. 09/778,993

ATTORNEY DOCKET NO. CANO:019

inserter means for feeding the stacked insert sheets ~~and inserting same so as to be inserted~~ between said sheets having images formed thereon;

mixed stacking means for stacking in a mixed fashion the sheets having images formed thereon by said image forming means and insert sheets to be inserted by said inserter means between the sheets having images formed thereon;

insert sheet discharging detecting means for detecting that said insert sheets have been discharged to said mixed stacking means;

~~sheet feeding control means responsive to detection of discharging of said insert sheets by said insert sheet discharging detecting means, for controlling such that feeding of said blank sheets to said image forming means be started;~~

image formed sheet discharging detecting means for detecting that said sheets having image formed thereon have been discharged to the mixed stacking means; and

inserting control means responsive to detection of discharging of said sheets having image formed thereon by said image formed thereon sheet discharging detecting means, for ~~controlling such that feeding of said insert sheets by said inserter means be started~~ said inserter means to carry out feeding of said insert sheets, said inserting control means being responsive to detection of discharging of said insert sheets by said insert sheet discharging detecting means, for controlling said feeding means to carry out feeding of said blank sheets.

14. (Currently Amended) A control method of controlling an image forming apparatus, comprising the steps of:

inputting images by inputting means;

forming images on blank sheets based on the input images by image forming means;

feeding insert sheets from a plurality of bundles of insert sheets each for a plurality of pages and stacked by stacking means, which are inserted between the sheets having images formed thereon by said image forming means, in a predetermined order of pages in which the insert sheets are inserted and inserting the fed insert sheets between the sheets having images formed thereon by said image forming means, by inserter means;

designating at least one position in said sheets having images formed thereon for insertion of at least one of the insert sheets by said inserter means, by designating means;

detecting an insert sheet ~~to be inserted first by detecting means~~ for a predetermined page in the bundles when a plurality of positions have been designated by said designating means; and

SN. 09/778,993

ATTORNEY DOCKET NO. CANO:019

discharging insert sheets onto ~~at least one tray other than a tray onto which the insert sheet to be inserted first is discharged~~ an escape tray until the insert sheet ~~to be inserted first~~ for the predetermined page is detected, by discharging means when said detecting means detects that the insert sheet fed by said inserter means is not the insert sheet ~~to be inserted first~~ for the predetermined page.

15. *(Previously Presented)* A control method according to claim 14, wherein said stacking means comprises a plurality of trays for stacking said plurality of insert sheets in a divided manner, the control method further comprising a step of selecting by selecting means between two types of stacking modes consisting of a first stacking mode in which a same type of insert sheets are stacked on each of said plurality of trays and a second stacking mode in which plural types of insert sheets are stacked in order in which they are inserted on each of said plurality of trays, and wherein said discharging step is executed while said second stacking mode is selected by said selecting means.

16. *(Original)* A control method according to claim 14, further comprising the steps of stacking said sheets having images formed thereon by said image forming means in a fashion mixed with insert sheets inserted by said inserter means, and carrying out post-processing on the mixedly stacked sheets, by post-processing means.

17. *(Original)* A control method according to claim 16, wherein said discharging step comprises discharging said insert sheets to a location other than said post-processing means.

18. *(Original)* A control method according to claim 14, wherein said detecting means is provided on a conveyance path for insert sheets.

19. *(Currently Amended)* A control method of controlling an image forming apparatus, comprising the steps of:

inputting images by inputting means;

forming images on blank sheets based on the input images by image forming means;

feeding insert sheets from a plurality of bundles of insert sheets for a plurality of pages and stacked by stacking means, which are inserted between the sheets having images formed thereon by said image forming means, in a predetermined order of pages in which the insert

SN. 09/778,993

ATTORNEY DOCKET NO. CANO:019

sheets are inserted ~~and inserting the fed insert sheets so as to be inserted~~ between the sheets having images formed thereon by said image forming means, by inserter means;

designating at least one position in said sheets having images formed thereon for insertion of at least one of the insert sheets by said inserter means, by designating means;

detecting an insert sheet ~~to be inserted first for a predetermined page in the bundles~~ by detecting means when a plurality of positions have been designated by said designating means;

interrupting a sheet inserting operation of said inserter means by interrupting means when at least one of the insert sheets has jammed while being inserted by said inserter means; and

discharging insert sheets ~~onto at least one tray other than a tray onto which the insert sheet to be inserted first is discharged~~ an escape tray until the insert sheet ~~to be inserted first for the predetermined page~~ is detected, and further discharging insert sheets onto the escape tray up to an insert sheet immediately preceding a same type of sheet as the at least one jammed insert sheet, by discharging means, when said detecting means detects that the insert sheet fed by said inserter means is not the insert sheet ~~to be inserted first for the predetermined page~~ after the apparatus has recovered from the interruption by removing the at least one jammed insert sheet.

20. *(Previously Presented)* A control method according to claim 19, wherein said stacking means comprises a plurality of trays for stacking said plurality of insert sheets in a divided manner, the control method further comprising a step of selecting by selecting means between two types of stacking modes consisting of a first stacking mode in which a same type of insert sheets are stacked on each of said plurality of trays and a second stacking mode in which plural types of insert sheets are stacked in order in which they are inserted on each of said plurality of trays, and wherein said discharging step is executed while said second stacking mode is selected by said selecting means.

21. *(Original)* A control method according to claim 19, further comprising the steps of stacking said sheets having images formed thereon by said image forming means in a fashion mixed with insert sheets inserted by said inserter means, and carrying out post-processing on the mixedly stacked sheets, by post-processing means.

22. *(Original)* A control method according to claim 21, wherein said discharging step comprises discharging said insert sheets to a location other than said post-processing means.

SN. 09/778,993

ATTORNEY DOCKET NO. CANO:019

23. (Original) A control method according to claim 19, wherein said detecting means is provided on a conveyance path for insert sheets.

24. (Currently Amended) A control method of controlling an image forming apparatus comprising inputting means for inputting images, feeding means for feeding blank sheets, image forming means for forming images on the blank sheets fed by the feeding means based on the input images, stacking means for stacking a plurality of insert sheets which are inserted between the sheets having images formed thereon by the image forming means, in a predetermined order in which the insert sheets are inserted, inserter means for feeding the stacked insert sheets so as to be inserted between the sheets having images formed thereon, mixed stacking means for stacking in a mixed fashion the sheets having images formed thereon by the image forming means and insert sheets to be inserted by the inserter means between the sheets having images formed thereon, and insert sheet discharging detecting means for detecting that the insert sheets have been discharged to the mixed stacking means, the control method comprising the steps of:

~~inputting images by inputting means;~~

~~forming images on blank sheets based on the input images by image forming means;~~

~~feeding insert sheets from a plurality of insert sheets stacked by stacking means, which are inserted between the sheets having images formed thereon by said image forming means, in a predetermined order in which the insert sheets are inserted and inserting the fed insert sheets between the sheets having images formed thereon by said image forming means, by inserter means;~~

~~detecting by insert sheet discharging detecting means that said insert sheets have been discharged to mixed stacking means that stacks in a mixed fashion the sheets having images formed thereon by said image forming means and insert sheets to be inserted by said inserter means between the sheets having images formed thereon; and~~

~~starting feeding of said blank sheets to said image forming means in response to detection of discharging of said insert sheets by said insert sheet discharging detecting means~~

a first feeding controlling step of controlling the inserter means to feed insert sheets after feeding of a blank sheet by the feeding means; and

a second feeding controlling step of controlling the feeding means to feed a next blank sheet in response to detection of discharging of the insert sheets fed by the inserter means in said first feeding controlling step, by the insert sheet discharging detecting means.

SN. 09/778,993

ATTORNEY DOCKET NO. CANO:019

25. *(Currently Amended)* A control method of controlling an image forming apparatus comprising inputting means for inputting images, feeding means for feeding blank sheets, image forming means for forming images on the blank sheets fed by said feeding means based on the input images, stacking means for stacking a plurality of insert sheets which are inserted between the sheets having images formed thereon by said image forming means, in a predetermined order in which the insert sheets are inserted, inserter means for feeding the stacked insert sheets so as to be inserted between said sheets having images formed thereon, mixed stacking means for stacking in a mixed fashion the sheets having images formed thereon by said image forming means and insert sheets to be inserted by said inserter means between the sheets having images formed thereon, and image formed sheet discharging detecting means for detecting that said sheets having image formed thereon have been discharged to the mixed stacking means, the control method comprising the steps of:

~~inputting images by inputting means;~~

~~forming images on blank sheets based on the input images by image forming means;~~

~~feeding insert sheets from a plurality of insert sheets stacked by stacking means, which are inserted between the sheets having images formed thereon by said image forming means, in a predetermined order in which the insert sheets are inserted and inserting the fed insert sheets between the sheets having images formed thereon by said image forming means, by inserter means;~~

~~detecting that said insert sheets have been discharged to mixed stacking means that stacks in a mixed fashion the sheets having images formed thereon by said image forming means and insert sheets to be inserted by said inserter means between the sheets having images formed thereon; and~~

~~starting feeding of said insert sheets by said inserter means in response to detection of discharging of said sheets having images formed thereon by said image forming means~~

~~a first feeding controlling step of controlling the feeding means to feed blank sheets; and~~

~~a second feeding controlling step of controlling the inserter means to feed insert sheets responsive to detection of discharging of sheets fed by the feeding means in said first feeding controlling step and having image formed thereon by the image forming means, by the insert sheet discharging detecting means.~~

26. *(Currently Amended)* A control method of controlling an image forming apparatus comprising inputting means for inputting images, feeding means for feeding blank sheets, image

SN. 09/778,993

ATTORNEY DOCKET NO. CANO:019

forming means for forming images on the blank sheets fed by said feeding means based on the input images, stacking means for stacking a plurality of insert sheets which are inserted between the sheets having images formed thereon by said image forming means, in a predetermined order in which the insert sheets are inserted, inserter means for feeding the stacked insert sheets so as to be inserted between said sheets having images formed thereon, mixed stacking means for stacking in a mixed fashion the sheets having images formed thereon by said image forming means and insert sheets to be inserted by said inserter means between the sheets having images formed thereon, insert sheet discharging detecting means for detecting that said insert sheets have been discharged to said mixed stacking means, and image formed sheet discharging detecting means for detecting that said sheets having image formed thereon have been discharged to the mixed stacking means, the control method comprising the steps of:

~~inputting images by inputting means;~~

~~forming images on blank sheets based on the read images by image forming means;~~

~~feeding insert sheets from a plurality of insert sheets stacked by stacking means, which are inserted between the sheets having images formed thereon by said image forming means, in a predetermined order in which the insert sheets are inserted and inserting the fed insert sheets between the sheets having images formed thereon by said image forming means, by inserter means;~~

~~detecting that said insert sheets have been discharged to mixed stacking means that stacks in a mixed fashion the sheets having images formed thereon by said image forming means and insert sheets to be inserted by said inserter means between the sheets having images formed thereon;~~

~~starting feeding of said blank sheets to said image forming means in response to detection of discharging of said insert sheets;~~

~~detecting that said sheets having image formed thereon have been discharged to said mixed stacking means; and~~

~~starting feeding said insert sheets by said inserter means in response to detection of discharging of said insert sheets~~

a first feeding controlling step of controlling the inserter means to feed insert sheets responsive to detection of discharging of the sheets having image formed thereon by the image forming means, by image formed sheet discharging detecting means; and

SN. 09/778,993

ATTORNEY DOCKET NO. CANO:019

a second feeding controlling step of controlling the feeding means to feed the blank sheets responsive to detection of discharging of said insert sheets fed by the inserter means in said first feeding controlling step, by the insert sheet discharging detecting means.

27. (Currently Amended) A machine readable storage medium storing instructions of a program for causing a computer to execute an image processing method comprising the steps of:

inputting images by inputting means;

forming images on blank sheets based on the input images by image forming means;

feeding insert sheets from a plurality of bundles of insert sheets each for a plurality of pages and stacked by stacking means, which are inserted between the sheets having images formed thereon by said image forming means, in a predetermined order of pages in which the insert sheets are inserted and inserting the fed insert sheets between the sheets having images formed thereon by said image forming means, by inserter means;

designating at least one position in said sheets having images formed thereon for insertion of at least one of the insert sheets by said inserter means, by designating means;

detecting an insert sheet ~~to be inserted first~~ by detecting means for a predetermined page in the bundles when a plurality of positions have been designated by said designating means; and

~~discharging insert sheets onto at least one tray other than a tray onto which the insert sheet to be inserted first is discharged~~ an escape tray until the insert sheet to be inserted first for the predetermined page is detected, by discharging means when said detecting means detects that the insert sheet fed by said inserter means is not the insert sheet ~~to be inserted first for the predetermined page~~.

28-31. (Canceled)

32. (Currently Amended) A machine readable storage medium storing instructions of a program for causing a computer to execute an image processing method comprising the steps of:

inputting images by inputting means;

forming images on blank sheets based on the input images by image forming means;

feeding insert sheets from a plurality of bundles of insert sheets for a plurality of pages and stacked by stacking means, which are inserted between the sheets having images formed thereon by said image forming means, in a predetermined order of pages in which the insert sheets are inserted ~~and inserting the fed insert sheets so as to be inserted~~ between the sheets

SN. 09/778,993

ATTORNEY DOCKET NO. CANO:019

having images formed thereon by said image forming means, by inserter means;

designating at least one position in said sheets having images formed thereon for insertion of at least one of the insert sheets by said inserter means, by designating means;

detecting an insert sheet ~~to be inserted first for a predetermined page in the bundles~~ by detecting means when a plurality of positions have been designated by said designating means;

interrupting a sheet inserting operation of said inserter means by interrupting means when at least one of the insert sheets has jammed while being inserted by said inserter means; and

discharging insert sheets onto ~~at least one tray other than a tray onto which the insert sheet to be inserted first is discharged~~ an escape tray until the insert sheet ~~to be inserted first for the predetermined page~~ is detected, and further discharging insert sheets onto the escape tray up to an insert sheet immediately preceding a same type of sheet as the at least one jammed insert sheet, by discharging means, when said detecting means detects that the insert sheet fed by said inserter means is not the insert sheet ~~to be inserted first for the predetermined page~~ after the apparatus has recovered from the interruption by removing the at least one jammed insert sheet.

33-39. (Canceled)